

REMARKS

This paper is in response to the Official Action mailed April 13, 2005. A petition for a one-month extension of time is enclosed herewith and incorporated by reference.

Claims 6-7 stand rejected under 35 U.S.C. 103(a) As being unpatentable over WO 97/04932 ("WO '932") in view of either U.S. Patent No. 5,643,376 to Gerhardt ("Gerhardt") or U.S. Patent No. 5,063,010 to Fischer et al. ("Fischer"), WO 98/50208 ("WO '208"), U.S Patent No. 5,125,812 to Held ("Held"), and optionally further in view of U.S. Patent No. 4,009,073 to Pozzo ("Pozzo").

WO '932 discloses a method for the continuous production of compressed board from lignocellulosic fibrous materials including the steps of drying, gluing and forming lignocellulosic material into a mat, and compressing the mat to a board using compression rollers. Steam is introduced in the compression step, through the rollers. The Examiner admits that WO '932 does not teach "conditioning said board by drawing a predetermined volume of air having a predetermined moisture content at a predetermined temperature through said board by means of suction applied through said board," as required by claim 6. The Examiner also admits that WO '932 does not teach the recitation in claim 6 of "grinding said conditioned board to a final thickness directly following said conditioning step."

With respect to the recitation, "conditioning said board by drawing a predetermined volume of air having a predetermined moisture content at a predetermined temperature through said board by means of suction applied through said board," the Examiner contends that it would have been obvious in the art to post condition a board by subjecting the board to a heated air having a predetermined moisture content as shown by the teachings of *Gerhardt* or *Fischer*. However, neither *Gerhardt* or *Fischer* teach or suggest the recitation of drawing a

predetermined volume of air having a predetermined moisture content through a board so as to condition the board. Nor do either of these references teach or suggest the recitation of grinding the conditioned board. Thus, these references, even if taken in combination, do not teach the invention as a whole.

Gerhardt teaches a method of preheating wood particles in the production of fiber or particle board. In the method of *Gerhardt*, a particle mat for pressing into a pressed board is heated by passing treatment air coming from an air conditioning system through the *mat*. In contrast, claim 6 requires drawing a predetermined volume of air having a predetermined moisture content through the board so as to condition the *board*. That is, in the invention of claim 6, air is drawn through the board so as to condition the board, which has already been compressed from a mat of lignocellulosic material, while *Gerhardt* is directed to a method where air is used to preheat a mat of wood particles, before it is compressed into a board. Moreover, the method of *Gerhardt* does not use suction to apply air to the mat of wood particles. Indeed, *Gerhardt* is silent with respect to this element of claim 6. Additionally, as noted above, *Gerhardt* is also silent with respect to grinding a conditioned board to a final thickness, as required by claim 6.

Likewise, the method of *Fischer* utilizes a step of preheating a *mat* of fibers or chips to make compression easier. There is no disclosure that a predetermined volume of air having a predetermined moisture content at a predetermined temperature can be drawn through the already compressed board to condition the board, let alone a disclosure that air can be drawn through the board by means of suction. Also like *Gerhardt*, *Fischer* is silent with respect to grinding a conditioned board to a final thickness, as required by claim 6.

Thus, neither *Gerhardt* nor *Fischer* add anything to the primary reference, WO '932. However, even if they did, none of

the references cited by the Examiner provides the necessary suggestion or motivation to combine the teachings of *Gerhardt* or *Fischer* with the steam injection method of WO '932.

The Examiner also contends that in accordance with the teachings of *Pozzo*, it is old in the art to moisturize a fibrous board to an in-line post-treatment operation by subjecting the board to a hot humidified air, and in accordance with the teachings of WO '208, it would have been obvious in the art to perform an in-line post-conditioning treatment to a fiberboard using a post-gas treatment similar to the method/apparatus taught by this reference.

Pozzo teaches an in-line humidification process where hardboard is humidified or moisturized following a bake treatment in order to prevent warping and buckling of the hardboard due to the dryness of the hardboard after the formation steps. However, *Pozzo* does not teach drawing air through the board by means of suction, as required by claim 6; *Pozzo* merely describes a process whereby hardboard absorbs moisture for the humidification process.

Moreover, *Pozzo* does not even teach a continuous process inasmuch as the hardboard of *Pozzo* is baked in an oven for from 2.5 to 4 hours, and then treated in a humidified chamber for 2.5 to 8 hours. Thus, regardless of the deficiencies of *Pozzo* as a secondary reference, it is improper to combine this reference with the primary reference, WO '932, because there is no suggestion, motivation or teaching in any of the references cited to combine the teachings of the continuous process of WO '932 with the non-continuous process of *Pozzo*. Additionally, the teachings of *Pozzo* extend only to wet processes of manufacturing hardboard, and this reference expressly states that fiber handling and mat forming techniques differ from wet process methods because the fiber is handled in air and not in water. Again, there is no suggestion, motivation

or teaching in any of the references cited to combine the teachings of the dry process of WO '932 with the wet process of Pozzo. Therefore, such combination is improper.

With regard to WO '208, this reference is not directed to a process for making lignocellulosic boards. The best that can be said about WO '208 is that it teaches treating a board-like material by moving it through a gas agent treatment zone. None of the references cited by the Examiner contain any teaching, suggestion or motivation to combine the treatment process of WO '208 with a process for making lignocellulose-containing boards. Thus, such combination is improper.

Neither Pozzo nor WO '208 teaches grinding a conditioned board to a final thickness. The Examiner cites *Held* to provide this element of claim 6. *Held* discloses an apparatus for making wood panels in which microcapsules containing hardener are introduced into the wood fleece before compacting to improve the structural properties of wood panels. The microcapsules are destroyed during compaction and hardener is released into the fleece, curing the board. The apparatus described by *Held* includes a double band press for first compacting a fleece of particles and then pressing the compacted fleece into a panel. *Held* discloses that a chip board web is ground to its final dimensions in a grinding station in a continuous fiberboard manufacturing process. However, there is no teaching, suggestion or motivation in any of the references cited to combine the teachings of *Held*, a two-step compression process using a double band press with the process of WO '932, which teaches a single step compression process using compression rollers. Additionally, there is no teaching, suggestion or motivation in any of the references cited to combine the teachings of *Held* with the teachings of any of the references that allegedly teach drawing a predetermined volume of air having a predetermined moisture content through the board

so as to condition the board using suction means. Thus, such combination is improper, and the Examiner's *prima facie* case of obviousness fails. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

Claim 7 includes all of the recitations of claim 6, and is not obvious in view of the cited references for at least the reasons stated above. Additionally, since there is no teaching, suggestion or motivation to combine the teachings of WO '932, *Gerhardt, Fischer* or *Held* with the teachings of WO '208, there is no incentive for one in the art to subject the board to a first and second conditioning by drawing a first predetermined volume of air having a first predetermined moisture content at a first predetermined temperature through said board in a first direction by means of suction applied through said board, and a second predetermined volume of air having a second predetermined moisture content at a second predetermined temperature through said board in a second direction by means of suction applied through said board, wherein the second direction is opposite to the first direction, as required by claim 7. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the references set forth above and further in view of either U.S. Patent No. 4,883,546 to Kunнемeyer ("*Kunнемeyer*") or U.S. Patent No. 4,356,763 to Hagstrom ("*Hagstrom*"). For the same reasons as stated above with respect to the cited references, Applicants submit that the prior art would not render claim 8 obvious. Even if the aforementioned references were combined, the references as a whole do not teach the invention of claim 8 because none of the cited references teach or suggest the elements missing in the primary reference. *Hagstrom* is directed to a device for use in a hydraulically-operated press and is not directed to a

continuous process for making lignocellulosic containing boards. The Examiner argues that regardless of whether *Hagstrom* suggests forming a fiberboard in a continuous process, it would have been obvious in the art to form a uniform density fiberboard in a continuous manner. Applicants respectfully submit that even if it were notoriously common practice in the art to interchangeably apply a continuous or a batch manufacturing operation to form a fiberboard, which Applicants dispute, the disclosure of *Hagstrom* is still improperly combined with the other references cited in the absence of any teaching, suggestion or motivation to combine a process utilizing a hydraulically operated press to control a number of pressing sequences with the single step compression process using compression rollers of WO '932 or the teachings of any of the other references cited.

According to the process of *Kunнемeyer*, wood fiber boards from homogeneous fine wood dust and not, more generally, lignocellulosic particles. The Examiner argues that lignocellulosic particles reads on homogenous fine wood dust. Although lignocellulose-containing boards may be made by the method of the present invention from a mat including wood dust, the process of *Kunнемeyer* relies on the provision of wood dust layers covering both faces of wood fiber web prior to pressing. There is no teaching, suggestion or motivation in any of the references cited that their teachings may be combined with a process that requires the formation of wood dust layers. Additionally, Applicants respectfully disagree with the Examiner that "as uniform a density distribution as possible" is equivalent to "substantially the same" density. There is no indication in *Kunнемeyer* that a board that has as uniform a density distribution as possible has substantially the same density among discrete layers, only that a uniform density distribution is desired. The most uniformness that is possible

is acceptable according to the method of Kunнемeyer, and there is no indication of what the best possible uniform density could be achieved. Thus, reconsideration and withdrawal of the rejection is respectfully requested.

As it is believed that all of the rejections set forth in the Official Action have been fully met, favorable reconsideration and allowance are earnestly solicited.

If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he/she telephone applicant's attorney at (908) 654-5000 in order to overcome any additional objections which he might have.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

Dated: August 2, 2005

Respectfully submitted,

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